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09/400,151	09/21/1999	ADNAN SHENNIB	ISM/007	3077

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EXAMINER	
LAO, LUN S	

ART UNIT	PAPER NUMBER
2643	10

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/400,151	SHENNIB, ADNAN	
	Examiner	Art Unit	
	Lun-See Lao	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-109* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *See Continuation Sheet* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Continuation of Disposition of Claims: Claims rejected are 1,3-14,16-28,30-41,48-50,53,56-58,61,63,66,67,70,71,74,75,81,82,84-90,94-102 and 106-108.

DETAILED ACTION

Introduction

1. This action responds to the amendment filed on 10-30-2003. Claims 1-109 are pending. Claims 1, 16, 18, 28, 30, 34, 37, 48-50, 61, 63, 67, 70, 84-86, 98-100 have been amended and claims 2, 15, 29, 42-47, 51-52, 54-55, 59-60, 62, 64-65, 68-69, 72-73, 76-80, 83, 91-93, 103-105, 109 have been canceled.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5-11, 14, 16-28, 30-36, and 84, 86-90 are rejected under 35 U.S.C. 102(b) as being anticipated by Shennib (US PAT. 5,645,074).

Consider claim 1 Shennib teaches a device for performing sound field hearing testing, said device comprising:

a) an audio transducer (see fig.5, 16) for producing acoustic test stimuli to a test subject within the direct sound field range of said audio transducer, and

b) a contactless position sensor (such as infrared light device) system for remotely measuring the distance (position) of said device with respect to the head or part thereof of said test subject, and

c) means for adjusting characteristics of said acoustic test stimuli in response to distance measurements performed by said position sensor system (see col.13 line 19-col.14 line 61).

Consider claims 5-9, Shennib teaches that the device is configured for operation by a test operator assisting said test subject (patient, see col.13 line 53-col.14 line 2); and the device means for performing said hearing evaluation in an unaided condition in which said test subject is not wearing a hearing aid (see col.9 lines 35-49); and the device of including means for performing said hearing evaluation in an aided condition in which said test subject is wearing a hearing aid (see fig.5); and the device of including means for performing said hearing evaluation in said aided condition to verify functionality of said hearing aid worn by said test subject (see col.13 line 13-col.14 line 53); and the device of including means for performing said hearing evaluation in said aided condition to adjust at least one parameter of said hearing aid (see col.13 line 13-col.14 line 61).

Consider claims 10-11, Shennib teaches the device of further comprising means for delivering at least one of said acoustic test stimuli within the soft level listening range of normal hearing individuals (see col.9 lines 9-33); and the device of the soft level listening range is between 20 and 40 dB HL (see figs. 24-30).

Consider claims 14, 16-21, Shennib teaches the device contactless position sensor (see fig.4, 69) system comprises at least one of an optical transducer, acoustic transducer and ultrasonic transducer (see fig.5 and col.14 lines 23-53); and the device of the contactless position sensor system comprises means for determining if the device

is within an operable range and orientation with respect to the head or part thereof of said test subject (see col.14 line 16-61); and the device of the contactless position sensor(see fig.4, 69) system inherently comprises a transmitting transducer and. a receiving transducer (see col.14 lines 25-61); and the device of the contactless position sensor (see fig.4, 69) system comprises means for computing the distance (position) between the device and the head or said part thereof of said test subject based on the latency period between a transmitted signal emitted by said transmitting transducer and reflected signal received by said receiving transducer inherently (see col. 14 lines 3-61); and the device of the transmitting transducer and receiving transducer are combined in a unitary bidirectional transducer (see fig.4, 69 and col.14 lines3 61); and the device of further comprising means to select from at least two types of acoustic test stimuli including speech, noise and tone types (see col.9 lines 9-35); and the device of further comprising means to select acoustic teststimuli in at least two frequency ranges (see col.9 lines 9-35).

Consider claims 22-28, Shennib teaches the device of further comprising at least one switch for selection of at least one acoustic test stimulus (see figs. 24-28); and the device of further comprising interface means (see fig.4, 69) for connecting a remote instrument to said device for remotely operating said device (see col.14 lines 3-61); and the device of the remote instrument comprises a computer (see fig.1, 11); and the device of interface means inherently comprise an electrical cable (see fig.1); and the device of the interface means comprise the Internet (protocol and see figs 25-28); and the device of the interface means (see fig.4, 69) comprise a wireless link (including

infrared and col.14 lines 36-45); and the device of further comprising response registration means (see fig.1,16) for registering test responses by said test subject (see col.13 lines 52-65).

Consider claims 30-36, Shennib teaches the device of further comprising visual statues display means (see fig.1, 16), inherently including liquid crystal display (LCD) and light (infrared) emitting diode (LED); and the device of further comprising a controller (see fig.1, 11); and the device of further comprising memory for storage (see fig.1, 17) of data representative of acoustic test stimuli (see col.12 lines 49-62); and the device of further comprising a microphone (see fig.3, 55,56); and the device of' the microphone provides means for measuring ambient background noise(see col.20 lines 8-39); and the device of further comprising wireless remote control means (see fig.4, 69) for controlling or adjusting at least one parameter of said hearing aid worn by said test subject (see col.13 line 51-col.14 line 61); and the device of the wireless remote control means comprise a magnet (see col.19 line 27-65).

Consider Claim 84, Shennib teaches a method of evaluating a test subject's hearing with a device containing a contactless position sensor system and an audio transducer, said method comprising the steps of:

a) measuring (see fig.5) the distance (position) of said subject's head or part thereof relative to said device with said position sensor (such as infarated) system when said device is inherently oriented toward said subject's head or part thereof;

b) a determining any of the characteristics of acoustic test stimuli according to the measurement performed by said position sensor system (see fig.4,69 and col.13 line 13-col.14 line 61); and

c) delivering said acoustic test stimuli to said test subject while said device is oriented toward said subject's head or part thereof of interest (see fig.5).

Consider claim 86-90, Shennib teaches the method of including the step of orienting said audio transducer at approximately 0°-45° incidence range and within a distance range of 2-10 cm (see fig.29) with respect to a test ear of said test subject while performing said step of delivering acoustic test stimuli, for monaural hearing evaluations (see col. 14line 54-col.15 line 60); the device means for performing said hearing evaluation in an unaided condition in which said test subject is not wearing a hearing aid (see col.9 lines 35-49); and the device of including means for performing said hearing evaluation in an aided condition in which said test subject is wearing a hearing aid (see fig.5); and the method of including delivering said acoustic test stimuli in saidaided condition to verify the functionality of said hearing aid (see figs. 24-37); and the method of including delivering said acoustic test stimuli in said aided condition to adjust at least one parameter of said hearing aid (see col.13 line 13-col.14 line 61).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all been obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 3, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shennib (US PAT. 5,645,074) in view of Brillhart (US PAT. 5,303,306).

Consider claim 3, Shennib does not clearly teach that device is constructed and adapted to be hand held by said test subject.

However, Brillhart teaches that device is constructed and adapted to be hand held by said test subject (see fig.1, 20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Shennib into Brillhart to provide of using the remote control to control the hearing aid response, as opposed to placing these controls on hearing itself, is that resulting hearing is less prone to damage and breakdown.

Consider claim 37, Shennib teaches a hand held device for performing sound field hearing evaluation in a contactless manner with respect to a test ear of a test subject, said device comprising:

a) an audio transducer for delivering acoustic test stimuli to said test subject holding said device within the direct sound field range of said audio transducer,

b) means (see figs. 24-28) for selecting delivery of said acoustic test stimuli through said audio transducer at two or more intensity levels for performing one or more supra-threshold hearing measurements (see col.13line 19-col.14 line 61),

c) means (see figs. 24-32) for selecting delivery of said acoustic test stimuli through said audio transducer in at least two frequency ranges for performing hearing evaluation in at least two frequency ranges (see col.9 line 9-18), and

d) a wireless position sensor (infrared, see fig.4,69) for remotely measuring the distance (position) of said device relative to the head or portion of the head or portion of the test subject (see col.13 line 3-col.14 line61), but Shennib does not clearly teach an audio transducer for delivering acoustic test stimuli to said test subject holding said device within the direct sound field range of said audio transducer.

However, Brillhart an audio transducer for delivering acoustic test stimuli to said test subject holding said device within the direct sound field range of said audio transducer (see fig.1,20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Shennib into Brillhart to provide of hearing aid test which will be more convinient.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shennib (US PAT. 5,645,074) in view of Luethi (US PAT. 4,918,737).

Consider claim 4, Shennib fails to teach that the device is configured as a wrist watch.

However, Luethi teaches that the device is configured as a wrist watch (see fig.1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine the teaching of Luethi with that of Shennib to achieve hearing aid with wireless remote control for friendlier use.

7. Claims 12-13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shennib (US PAT. 5,645,074) in view of Downs (US PAT. 5,428,998).

Consider claims 12-13, Shennib does not clearly teach the device of further comprising means for delivering at least one of said acoustic test stimuli within the comfortable level listening range of normal hearing individuals, wherein said comfortable level listening range is between 45 and 65 dB HL.

However, Downs teaches the device of further comprising means for delivering at least one of said acoustic test stimuli within the comfortable level listening range of normal hearing individuals, wherein said comfortable level listening range is between 45 and 65 dB HL (see col.2 line 50-col.3 line2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Downs with that of Shennib to provide a more choice for hearing aid test.

8. Claims 37-41, 48-50, 53, 56-58, 61-63, 66-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shennib (US PAT. 5,197,332) in view of Shennib (US PAT. 5,645,074).

Consider claim 37, Shennib (332) teaches a hand held device for performing sound field hearing evaluation in a contactless manner with respect to a test ear of a test subject, said device comprising:

a) an audio transducer (see fig.2, 14) for delivering acoustic test stimuli to said test subject holding said device (18a) within the direct sound field range of said audio transducer (14), and

b) means for selecting delivery of said acoustic test stimuli through said audio transducer in at least two frequency ranges for performing hearing evaluation in at least two frequency ranges (see col.10 line 55-col.11 line 20).

But, Shennib (332) does not clearly teach the means for selecting delivery of said acoustic test stimuli through said audio transducer at two or more intensity levels for performing one or more supra-threshold hearing measurements, and

a wireless position sensor for remotely measuring the distance of said device relative to the head or portion of the head of the test subject.

However, Shennib(074) teaches the means (see figs. 24-28) for selecting delivery of said acoustic test stimuli through said audio transducer at two or more intensity levels for performing one or more supra-threshold hearing measurements (see col.13 line 3-col.14 line 61), and

a wireless position sensor (infrared) for remotely measuring the distance (position) of said device relative to the head or portion of the head of the test subject (see col.13 line 3-col.14 line61).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Shennib (332) and Shennib(074) to provide a virtual electroacoustic audiometer, which is a system used in the assessment of human hearing function in the unaid, simulated aided, and aided conditions and to ensure the quality of data collected.

Consider claims 38-39, Shennib (332) teaches the hand held device of is configured for operation by said test subject and device is configured for operation by a test operator assisting said test subject (see col.4 lines 45-55).

Consider claims 40-41, Shennib (074) teaches that the device means for performing said hearing evaluation in an unaided condition in which said test subject is not wearing a hearing aid (see col.9 lines 35-49); and the device of including means for performing said hearing evaluation in an aided condition in which said test subject is wearing a hearing aid (see fig.5).

Consider claims 48-49, Shennib (074) teaches a contactless position sensor (see fig.4,69) system for measuring the position of said device with respect to the head or part thereof of said test subject (see fig.5 and see col.14 line3 –61); and the hand held device of further including means for adjusting the characteristics of said acoustic test stimuli, in response to position measurements performed by said contactless position sensor system (see col. 13 line 13-col.14 line 61).

Consider claims 50, 53, 56-58, Shennib (332) teaches the hand held device wherein said contactless position sensor system comprises an ultrasonic transducer (see col.9 lines 1-20); and the hand held device of further comprising means to select from at least

two types of said acoustic test stimuli including speech, noise and tone types (see col.7line 57-col.8 line 10); and the hand held device of further comprising interface means for connecting a remote instrument for remotely operating said hand held device (see fig.4, 126,124); and the hand held device of remote instrument comprises a computer (see col.4 line 5-15); and the hand held device of said interface means comprise the Internet (see fig.4, 126, modem can connect to the internet).

Consider claims 61 and 63, Sheenib(332) teaches the hand held device of further comprising response registration means for registering test responses by said test subject (see col.10 line 55-col.11 line 20); and the hand held device of further comprising visual display means, including an liquid crystal display (LCD) and light emitting diode (LED) (see col.5 lines 5-62).

Consider claims 66-67, Shennib(074) teaches the device of further comprising a microphone (see fig.3, 55,56); and the device of the microphone provides means for measuring ambient background noise(see col.20 lines 8-39).

9. Claims 70-71, 74-75, and 81-82, 98-102, 106-108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US PAT. 5,721,783) in view of Shennib (US PAT. 5,645,074).

Consider claim 70, Anderson teaches a system for performing hearing evaluation of a test subject comprising:

a) a hand held device containing an audio transducer (see fig.2, spkr) within, said hand held device (see fig.2, 23) being positioned within the direct sound field range of

said audio transducer and positioned in a contactless manner with respect to a test ear of said test subject (22),

b) an auxiliary (22) instrument operably connected to said hand held device (23) for remotely controlling the operation of said hand held device, and

c) means for selecting the delivery of acoustic test stimuli through said audio transducer at two or more intensity levels and at two or more frequency ranges (see col.27 lines 2-25).

But, Anderson fails to teach a contactless position sensor for remotely measuring the distance of said device relative to the head or portion of the head of the test subject, and means for adjusting said acoustic; stimuli based on distance measured by said position sensor.

However, Shennib teaches a contactless position sensor (see fig.4, 69) for remotely measuring the distance (position) of said device relative to the head or portion of the head of the test subject(see fig.5), and means for adjusting said acoustic; stimuli based on distance measured by said position sensor (see col.13 line 13-col.14 line 61).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Anderson and Shennib(074) to provide a virtual electroacoustic audiometer, which is a system used in the assessment of human hearing function in the unaid, simulated aided, and aided conditions and to ensure the quality of data collected.

Consider claim 71 Anderson teaches the hand held device (fig.1,23) is independently operable as a hearing evaluator when detached from said auxiliary instrument;

Consider claims 74-75, Shennib teaches the device means for performing said hearing evaluation in an unaided condition in which said test subject is not wearing a hearing aid (see col.9 lines 35-49); and the device of including means for performing said hearing evaluation in an aided condition in which said test subject is wearing a hearing aid (see fig.5).

Consider claims 81-82, Anderson teaches the system of auxiliary instrument is a computer (see col.26 line20-55); and the system of including means for remotely connecting said auxiliary instrument to said hand held device through the Internet (from cellular telephone).

Consider claim 98, Anderson teaches a method of hearing evaluation for an individual holding a hand held device containing an audio transducer for delivering acoustic test stimuli in a contactless manner and within the direct sound field range of said audio transducer with respect to a test ear of said individual, said method comprising the steps of:

c) delivering at least two levels of said acoustic test stimuli to said test ear of the individual (see fig.2), and

d) delivering said acoustic test stimuli in at least two frequency ranges (see col.27 lines 2-25), but Anderson does not clearly teach the performing position sensing

to remotely measure distance of said individual relative to said device; and calibrating said acoustic test stimuli based on distance measured by said position sensing.

However, Shennib teaches the performing position sensing (see fig.4, 69) to remotely measure distance of said individual relative to said device; and calibrating (see fig.5) said acoustic test stimuli based on distance measured by said position sensing (see col.13 line 13-col.14 line 61).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Anderson and Shennib(074) to provide a virtual electroacoustic audiometer, which is a system used in the assessment of human hearing function in the unaid, simulated aided, and aided conditions and to ensure the quality of data collected.

Consider claim 99, Anderson teaches the method of including the step of orienting said audio transducer at approximately 0 ° incidence arid within a distance range of 30-60cm with respect to the forehead of said test subject, while performing said step of delivering acoustic test stimuli (by using only part of RPU in fig.2, see col.27 line 3-col28 line60).

Consider claims 100-102, Shennib teaches the method of including the step of orienting said audio transducer at approximately 0°-45° incidence range and within a distance range of 2-10 cm (see fig.29) with respect to a test ear of said test subject while performing said step of delivering acoustic test stimuli, for monaural hearing evaluations (see col. 14line 54-col.15 line 60); the device means for performing said hearing evaluation in an unaided condition in which said test subject is not wearing a

hearing aid (see col.9 lines 35-49); and the device of including means for performing said hearing evaluation in an aided condition in which said test subject is wearing a hearing aid (see fig.5).

Consider claims 106-108, Anderson teaches that the method of including connecting a remote instrument to said device via an interface to remotely control said device during said hearing evaluation (see col.25 line2 –col.24 line 60) and the method of including connecting said remote instrument to said device via the Internet (by using cellular telephone connect to the internet ,see fig.2); and the method of remote instrument is a computer (see col.26 lines 23-55).

10. Claims 85 and 94-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shennib (US PAT. 5,645,074) in view of Anderson (US PAT. 5,721,783).

Consider claim 85, Shennib does not clearly teach the method of including the step of orienting said audio transducer at approximately 0° incidence and within a distance range of 30-60cm with respect to the forehead of said test subject, while performing said step of delivering acoustic test stimuli.

However, Anderson teaches the method of including the step of orienting said audio transducer at approximately 0 ° incidence arid within a distance range of 30-60cm with respect to the forehead of said test subject, while performing said step of delivering acoustic test stimuli (by using only part of RPU in fig.2, see col.27 line 3-col28 line60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Anderson and Shennib (074) to provide a convenient means for testing a user's hearing capability without the need for additional equipment, to assist user in the location of misplaced hearing aid system components.

Consider claims 94-96, Anderson teaches that the method of including connecting a remote instrument to said device via an interface to remotely control said device during said hearing evaluation (see col.25 line2 –col.24 line 60) and the method of including connecting said remote instrument to said device via the Internet (by using cellular telephone connect to the internet ,see fig.2); and the method of remote instrument is a computer (see col.26 lines 23-55).

Consider claim 97, Shennib teaches that the method of remote instrument is an audiometer (see fig.1, 19).

Response to Arguments

11. Applicant's arguments with respect to claims 1-109 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Engebretson (US PAT. 4,548,082) is recited to show other related personal hearing evaluator.

13. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231
or faxed to:(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA. Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (703) 305-2259 The examiner can normally be reached on Monday-Friday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (703) 306-0377.

Lao, Lun-See
Patent Examiner
US Patent and Trademark Office
Crystal Park 2
(703305-2259

DUC NGUYEN
PRIMARY EXAMINER